

IN THE CLAIMS:

Please cancel Claim 85, without prejudice and without disclaimer of subject matter.

Please amend Claims 28, 29, 36, 46-48, and 86-92, and add new Claims 93 and 94, to read as follows. A marked-up version of the amended claims, showing the changes made thereto, is attached.

28. (Amended) The spacer according to claim 27, wherein the incident angle multiplication coefficient of secondary electron emission coefficient m_0 on the surface of said spacer is 5 or less in the incident energy equal to or lower than said cross-point energy when obtaining it from the value of secondary electron emission coefficient measured under the conditions that incident energy is 1 keV and incident angle is 0 degree as well as the values measured under the conditions that incident energy is 1keV and incident angles θ are 20, 40, 60 and 80 degrees by conducting a regression analysis by the least square method in said general formula (1).

29 (Amended) The spacer according to claim 27 or claim 28, wherein said spacer is provided with an uneven geometry at least on a part of its surface

36. (Amended) The spacer according to claim 27, comprising an uneven geometry at least on a part of its surface, said uneven geometry being obtained by removing the material surface of said spacer nonuniformly.

46. (Twice Amended) A spacer, wherein the value of the incident angle multiplication coefficient m_0 of secondary electron emission coefficient, which is a parameter of the following formula:

$$\frac{\delta_\theta}{\delta_0} = \frac{1 - \left\{ 1 - \frac{m_0 \cos \theta}{1 + (m_1)^{-1} \times (m_0 \cos \theta)^{m_2}} \right\} \exp(-m_0 \cos \theta)}{1 - \left\{ 1 - \frac{m_0}{1 + (m_1)^{-1} \times m_0^{m_2}} \right\} \exp(-m_0)} \times \frac{1}{\cos \theta}$$

General Formula (1)

is 10 or less,

when obtaining it from the value of secondary electron emission coefficient measured under the conditions that incident energy is 1 k eV and incident angle is 0 degree as well as the values measured under the conditions that incident energy is 1 k eV and incident angles θ are 20, 40, 60 and 80 degrees by conducting a regression analysis by the least square method in said general formula (1), provided that the second electron emission coefficient of its surface has two incident energies which satisfy the second electron emission coefficient $\delta = 1$ under the vertical incident conditions, and that when the larger energy of said two energies satisfying said condition $\delta = 1$ is referred to as a second cross-point energy, the secondary electron emission coefficients for the primary electrons whose incident angles are θ and 0 degrees are represented by

δ_θ , δ_0 , respectively, and

m_1 , m_2 have the values

$m_1 = 0.68273$

$m_2 = 0.86212$, respectively,

in the incident energy equal to or lower than the second cross-point energy,

wherein said spacer is provided with an uneven geometry at least on a part of its surface, said uneven geometry being arranged at least in two directions on the surface.

47. (Twice Amended) A spacer, wherein the value of the incident angle multiplication coefficient m_0 of secondary electron emission coefficient, which is a parameter of the following formula:

$$\frac{\delta_0}{\delta_0} = \frac{1 - \left\{ 1 - \frac{m_0 \cos \theta}{1 + (m_1)^{-1} \times (m_0 \cos \theta)^{m_2}} \right\} \exp(-m_0 \cos \theta)}{1 - \left\{ 1 - \frac{m_0}{1 + (m_1)^{-1} \times m_0^{m_2}} \right\} \exp(-m_0)} \times \frac{1}{\cos \theta}$$

General Formula (1)

is 10 or less,

when obtaining it from the value of secondary electron emission coefficient measured under the conditions that incident energy is 1 k eV and incident angle is 0 degree as well as the values measured under the conditions that incident energy is 1 k eV and incident angles θ are 20, 40, 60 and 80 degrees by conducting a regression analysis by the least square method in said general formula (1), provided that the second electron emission coefficient of its surface has two incident energies which satisfy the second electron emission coefficient $\delta = 1$ under the vertical incident conditions, and that when the larger energy of said two energies satisfying said condition $\delta = 1$ is referred to as a second

cross-point energy, the secondary electron emission coefficients for the primary electrons whose incident angles are θ and 0 degrees are represented by

δ_θ, δ_0 , respectively, and

m_1, m_2 have the values

$m_1 = 0.68273$

$m_2 = 0.86212$, respectively,

in the incident energy equal to or lower than the second cross-point energy,

wherein said spacer is provided with an uneven geometry at least on a part of its surface, said uneven geometry constituting of the amplitudes of at least two kinds of unevenness.

48. (Twice Amended) A spacer, wherein the value of the incident angle multiplication coefficient m_0 of secondary electron emission coefficient, which is a parameter of the following formula:

$$\frac{\delta_\theta}{\delta_0} = \frac{1 - \left\{ 1 - \frac{m_0 \cos \theta}{1 + (m_1)^{-1} \times (m_0 \cos \theta)^{m_2}} \right\} \exp(-m_0 \cos \theta)}{1 - \left\{ 1 - \frac{m_0}{1 + (m_1)^{-1} \times m_2^{m_2}} \right\} \exp(-m_0)} \times \frac{1}{\cos \theta}$$

General Formula (1)

is 10 or less,

when obtaining it from the value of secondary electron emission coefficient measured under the conditions that incident energy is 1 k eV and incident angle is 0 degree as well as the values measured under the conditions that incident energy is 1 k

eV and incident angles θ are 20, 40, 60 and 80 degrees by conducting a regression analysis by the least square method in said general formula (1), provided that the second electron emission coefficient of its surface has two incident energies which satisfy the second electron emission coefficient $\delta = 1$ under the vertical incident conditions, and that when the larger energy of said two energies satisfying said condition $\delta = 1$ is referred to as a second cross-point energy, the secondary electron emission coefficients for the primary electrons whose incident angles are θ and 0 degrees are represented by

$\delta_{\theta}, \delta_0$, respectively, and

m_1, m_2 have the values

$m_1 = 0.68273$

$m_2 = 0.86212$, respectively.

in the incident energy equal to or lower than the second cross-point energy,

wherein said spacer is provided with an uneven geometry at least on a part of its surface, said uneven geometry constituting of the cycles periods of at least two kinds of unevenness.

86. (Amended) An apparatus according to claim 91, wherein said spacer comprises an insulative spacer body and a high resistance film formed on a surface of said spacer body.

87. (Amended) An apparatus according to claim 91, wherein said spacer has a structure comprising an insulative spacer body and a high resistance film formed on a surface of said spacer body, a fine unevenness is formed on the surface of said

spacer body, and, based on the fine unevenness on the surface of said spacer body, a fine unevenness is formed on a surface of said high resistance film.

88. (Amended) An apparatus according to claim 91, wherein said spacer has a structure comprising an insulative spacer body and a high resistance film formed on a surface of said spacer body, and a fine unevenness is formed on a surface of said high resistance film.

89. (Amended) An apparatus according to claim 91, wherein said spacer has a surface resistance in a range of $10^7 - 10^{14} \Omega / \square$.

90. (Amended) An apparatus according to claim 91, wherein said spacer has a structure comprising an insulative spacer body and a high resistance film formed on a surface of said insulative spacer body, and said high resistance film has a surface resistance in a range of $10^7 - 10^{14} \Omega / \square$.

91. (Amended) A flat display apparatus, comprising,
first and second substrates supported in opposition to each other,
wherein a spacer having a predetermined height exists between said first and second substrates, a periphery of opposing sections of said first and second substrates are hermetically sealed to form a hermetic flat space between said first and second substrates, and an electron-emitting section is disposed at a side of said first substrate; and
a phosphor plane disposed at a side of said second substrate.

wherein an electron derived from said electron-emitting section is accelerated and irradiates onto said phosphor plane to cause an excited light emission from said phosphor plane, thereby performing a desired light emission displaying, and a surface of said spacer includes a fine unevenness, and

wherein a maximum height R_{max} of the fine unevenness of the surface meets $0.05\mu m \leq R_{max} \leq 100\mu m$.

92. (Amended) an apparatus according to claim 91, wherein the fine uneven surface is formed at least a part of said spacer.

--93. (New) An electron beam apparatus, comprising:

a hermetic container which includes an electron source having electron emission devices and targets exposed to electrons emitted from said electron source; and

a first member within said hermetic container,

wherein said first member is provided with an uneven geometry on at least a part of its surface, and said uneven geometry has multiple cycles.

94. (New) An electron beam apparatus, comprising.

a hermetic container which includes an electron source having electron emission devices and targets exposed to electrons emitted from said electron source; and

a first member within said hermetic container.